

# British Telecommunications Engineering

## INDEX

### VOLUME 3

(April 1984–January 1985)

<b>A</b>	
ABRAM, J., and MILWAY, N. R. P. System X: Build Control Part 2—Data Management .. .. .	266
ANDREWS, M. J. Supergroup and Hypergroup Codecs .. .. .	154
ARTHUR, J. D., and HEAP, S. Network Management in the Digital Network .. .. .	308
<b>B</b>	
BACK, R. E. G. National Networks Keynote Address to the Institution of British Telecommunications Engineers .. .. .	2
BANFIELD, K. E. Power Systems and Reliability Part 1—Present-Day Systems .. .. .	31
BARBER, S., MATHIAS, G. E., and SANDUM, K. N. Early In-Service Experience of System X Exchanges .. .. .	273
BATY, R. M., and SANDUM, K. N. System X: Maintenance Control Subsystem .. .. .	277
BELTON, R. C., GALLAGHER, I. D., BEXON, M. D., MOOR, S. R., STEGMAN, S. C. J., TROUGHTON, D. J., and LUMB, A. P. System X: The Processor Utility .. .. .	226
BEXON, M. D., MOOR, S. R., STEGMAN, S. C. J., TROUGHTON, D. J., LUMB, A. P., BELTON, R. C., and GALLAGHER, I. D. System X: The Processor Utility .. .. .	226
BOAG, J. F., and FRAME, P. B. Telecommunications—Meeting the Challenge .. .. .	219
Book Reviews .. .. .	13, 85, 91, 200, 212
BOULTER, R. A., and PRICE, C. D. E. Integrated Services Digital Network .. .. .	311
BRANDER, R. W., and BURVILLE, P. J. Evolution of System X—A Review .. .. .	223
BRANDER, R. W. Profile .. .. .	212
British Telecom Network, Digital Restructuring of the .. .. .	300
British Telecom Operator Services System, The .. .. .	284
British Telecom Press Notices .. .. .	62, 63, 131, 140, 213, 214, 215, 305
Broadband Cable Systems .. .. .	6
BROWN, D. W., and LIDBETTER, E. J. The Future Network Build Control, System X: Part 1—Product, Hardware and Software Build .. .. .	261
Part 2—Data Management .. .. .	266
BURRINGTON, P. R. H. Service Standards for Packet-Switched Networks—An Introduction .. .. .	197
BURVILLE, P. J., and BRANDER, R. W. Evolution of System X—A Review .. .. .	223
BUTTERWORTH, D. C., and WILLIAMS, A. System X: Common-Channel Signalling—Progress on Installation and Testing .. .. .	255
<b>C</b>	
Cable Network, Remote Monitoring of the Pressurised Part 1—Cable Flow Monitoring .. .. .	76
Part 2—Cable Pressure Monitoring .. .. .	169
Cable System: The Use of Recovered Equipment, The Larne-Portpatrick Submarine .. .. .	16
Cable Systems, Broadband .. .. .	6
Cabling with Optical Fibres, In-Station .. .. .	259
CAMPBELL, R., and GREENOP, D. COST 201—A Procedure for the Optimisation of Telecommunication Networks .. .. .	47
CARSON, R. A Digital Speech Voltmeter—The SV6 .. .. .	23
CATCHPOLE, R. J., MCELVANNEY, S. G., and NORMAN, P. Design and Performance of Digital Transmission Systems Operating on Metallic Pairs .. .. .	187
Codecs, Supergroup and Hypergroup .. .. .	154
COLLIER, Q. G. The British Telecom Operator Services System .. .. .	284
COLLINS, J. W., and WILTSHIRE, B. The Development of a Computer-Aided Contact Resistance Measurement System .. .. .	132
Common-Channel Signalling—Progress on Installation and Testing, System X: .. .. .	255
Communications, An Introduction to Data .. .. .	68
Communications Medium for the 1980s, Electronic Mail: The .. .. .	14
Computer-Aided Contact Resistance Measurement System, The Development of a .. .. .	132
Concentrator Units, The Function and Use of Remote .. .. .	245
Contact Resistance Measurement System, The Development of a Computer-Aided .. .. .	132
Control Subsystem, System X: Maintenance .. .. .	277
Control, System X: Build Part 1—Product, Hardware and Software Build .. .. .	261
Controller for Parcel Sorting Machines, A New Micro-processor .. .. .	117
Cooling Techniques for Digital Exchanges, The Evolution of .. .. .	252
COST 201—A Procedure for the Optimisation of Telecommunication Networks .. .. .	47
CROOK, C. Profile .. .. .	137
CROOKS, K. R. Local Network Strategy—Today's Plans for Tomorrow's Network .. .. .	297
<b>D</b>	
Data Communications, An Introduction to .. .. .	68
Data Services and the ISDN .. .. .	79
Data-in-Voice Modem, A 2048 kbit/s .. .. .	161
DAVIES, H. S. J., and WALPOLE, A. E. Loading the Digital Network .. .. .	306
Design and Performance of Digital Transmission Systems Operating on Metallic Pairs .. .. .	187
Detector Vans, Television .. .. .	180
Development of a Computer-Aided Contact Resistance Measurement System, The .. .. .	132
DICK, A. B. Transmultiplexers .. .. .	149
Digital Exchanges, The Evolution of Cooling Techniques for .. .. .	252
Digital Network, Integrated Services .. .. .	311
Digital Network, Loading the .. .. .	306
Digital Network, Network Management in the .. .. .	308
Digital Network, Synchronisation and Slip Performance in a .. .. .	99





Measurement System, The Development of a Computer-Aided Contact Resistance .. .. .	132
Medium for the 1980s, Electronic Mail: The Communications .. .. .	14
MERLO, D. Profile .. .. .	141
Metallic Pairs, Design and Performance of Digital Transmission Systems Operating on .. .. .	187
Microprocessor Controller for Parcel Sorting Machines, A New .. .. .	117
Microwave Radio-Relay Network, Fault Location Techniques on the Inland .. .. .	121
MILLOTT, L. J., and SMITH, R. Synchronisation and Slip Performance in a Digital Network .. .. .	99
MILWAY, N. R. P., and ABRAM, J. System X: Build Control Part 2—Data Management .. .. .	266
Modem, A 2048 kbit/s Data-in-Voice .. .. .	161
Monitoring of the Pressurised Cable Network, Remote Part 1—Cable Flow Monitoring .. .. .	76
Part 2—Cable Pressure Monitoring .. .. .	169
MOOR, S. R., STEGMAN, S. C. J., TROUGHTON, D. J., LUMB, A. P., BELTON, R. C., GALLAGHER, I. D., and BEXON, M. D. System X: The Processor Utility .. .. .	226
MORRIS, J. Electronic Mail: The Communications Medium for the 1980s .. .. .	14

## N

National Networks	
Keynote Address to the Institution of British Telecommunications Engineers .. .. .	2
Network, Digital Restructuring of the British Telecom .. .. .	300
Network, Fault Location Techniques on the Inland Microwave Radio-Relay .. .. .	121
Network, Integrated Services Digital .. .. .	311
Network, Loading the Digital .. .. .	306
Network Management in the Digital Network .. .. .	308
Network, Remote Monitoring of the Pressurised Cable Part 1—Cable Flow Monitoring .. .. .	76
Part 2—Cable Pressure Monitoring .. .. .	169
Network Strategy—Today's Plans for Tomorrow's Network, Local .. .. .	297
Network, Synchronisation and Slip Performance in a Digital Network, The Future .. .. .	99
Networks—An Introduction, Service Standards for Packet-Switched .. .. .	318
Networks, COST 201—A Procedure for the Optimisation of Telecommunication .. .. .	197
Networks, Error Performance Objectives for Digital .. .. .	47
Networks, Jitter in Digital Telecommunication .. .. .	92
New Microprocessor Controller for Parcel Sorting Machines, A .. .. .	108
New Operations and Maintenance Centres for Second Generation System X Exchanges .. .. .	117
NORMAN, P., CATCHPOLE, R. J., and MCELVANNEY, S. G. Design and Performance of Digital Transmission Systems Operating on Metallic Pairs .. .. .	286
	187

## O

Objectives for Digital Networks, Error Performance .. .. .	92
Open Systems Interconnection—An Introductory Guide .. .. .	86
Operations and Maintenance Centres for Second Generation System X Exchanges, New .. .. .	286
Operator Services System, The British Telecom .. .. .	284
Optical Fibres, In-Station Cabling with .. .. .	259
Optimisation of Telecommunication Networks, COST 201—A Procedure for the .. .. .	47
Ordering Programme, System X Exchanges—The .. .. .	290
OWEN, W. P. Power for System X .. .. .	249

## P

Packet-Switched Networks—An Introduction, Service Standards for .. .. .	197
Pairs, Design and Performance of Digital Transmission Systems Operating on Metallic .. .. .	187
Parcel Sorting Machines, A New Microprocessor Controller for .. .. .	117

Parcels, A Hundred Years of Royal Mail .. .. .	39
Performance in a Digital Network, Synchronisation and Slip .. .. .	99
Performance Objectives for Digital Networks, Error .. .. .	92
Performance of Digital Radio-Relay Systems .. .. .	201
Performance of Digital Satellite Links, Factors Involved in Determining the .. .. .	174
Performance of Digital Transmission Systems Operating on Metallic Pairs, Design and .. .. .	187
Portpatrick Submarine Cable System: The Use of Recovered Equipment, The Larne— .. .. .	16
Power for System X .. .. .	249
Power Systems and Reliability .. .. .	
Part 1—Present-Day Systems .. .. .	31
Press Notices, British Telecom .. .. .	62, 63, 131, 140, 213, 214, 215, 305
Pressurised Cable Network, Remote Monitoring of the Part 1—Cable Flow Monitoring .. .. .	76
Part 2—Cable Pressure Monitoring .. .. .	169
PRICE, C. D. E., and BOULTER, R. A. Integrated Services Digital Network .. .. .	311
Principal Local Exchange, Role of the Digital .. .. .	304
Procedure for the Optimisation of Telecommunication Networks, COST 201—A .. .. .	47
Processor Utility, System X: The .. .. .	226
Profiles of Senior Staff .. .. .	137, 212

## Q

Quality Assurance for System X .. .. .	294
--	-----

## R

RABINDRAKUMAR, K. The Function and Use of Remote Concentrator Units .. .. .	245
Radio-Relay Network, Fault Location Techniques on the Inland Microwave .. .. .	121
Radio-Relay Systems, Performance of Digital .. .. .	201
Recovered Equipment, The Larne-Portpatrick Submarine Cable System: The Use of .. .. .	16
Reliability, Power Systems and .. .. .	
Part 1—Present-Day Systems .. .. .	31
Remote Concentrator Units, The Function and Use of .. .. .	245
Remote Monitoring of the Pressurised Cable Network Part 1—Cable Flow Monitoring .. .. .	76
Part 2—Cable Pressure Monitoring .. .. .	169
Resistance Measurement System, The Development of a Computer-Aided Contact .. .. .	132
Resources Management .. .. .	37
Restructuring of the British Telecom Network, Digital .. .. .	300
Role of the Digital Principal Local Exchange .. .. .	304
ROLFE, M. A. Role of the Digital Principal Local Exchange .. .. .	304
Royal Mail Parcels, A Hundred Years of .. .. .	39

## S

SANDS, M. J., and KELLY, P. T. F. An Introduction to Data Communications .. .. .	68
SANDUM, K. N., and BATY, R. M. System X: Maintenance Control Subsystem .. .. .	277
SANDUM, K. N., BARBER, S., and MATHIAS, G. E. Early In-Service Experience of System X Exchanges .. .. .	273
Satellite Links, Factors Involved in Determining the Performance of Digital .. .. .	174
Senior Staff, Profiles of .. .. .	137, 212
Service Standards for Packet-Switched Networks—An Introduction .. .. .	197
Services and the ISDN, Data .. .. .	79
Services System, The British Telecom Operator .. .. .	284
Signalling—Progress on Installation and Testing, System X: Common-Channel .. .. .	255
SIMPSON, W. G. Broadband Cable Systems .. .. .	6
Slip Performance in a Digital Network, Synchronisation and .. .. .	99
SMITH, J. T. Remote Monitoring of the Pressurised Cable Network .. .. .	
Part 1—Cable Flow Monitoring .. .. .	76
Part 2—Cable Pressure Monitoring .. .. .	169
SMITH, R., and MILLOTT, L. J. Synchronisation and Slip Performance in a Digital Network .. .. .	99

Sorting Machines, A New Microprocessor Controller for Parcel .. .. .	117
Speech Voltmeter—The SV6, A Digital .. .. .	23
Standards for Packet-Switched Networks—An Introduction, Service .. .. .	197
STEGMAN, S. C. J., TROUGHTON, D. J., LUMB, A. P., BELTON, R. C., GALLAGHER, I. D., BEXON, M. D., and MOOR, S. R. System X: The Processor Utility .. .. .	226
STOREY, J. D., and HOLMES, D. C. System X Exchanges—The Ordering Programme .. .. .	290
STOREY, M. H., and FOX, M. J. System X: Build Control Part 1—Product, Hardware and Software Build .. .. .	261
Strategy—Today's Plans for Tomorrow's Network, Local Network .. .. .	297
STRICKLAND, L. F., and HEWITT, M. A. New Operations and Maintenance Centres for Second Generation System X Exchanges .. .. .	286
Submarine Cable System: The Use of Recovered Equipment, The Larne—Portpatrick .. .. .	16
Subscriber Switching Subsystem, System X: Digital .. .. .	241
Subsystem, System X: Digital Subscriber Switching .. .. .	241
Subsystem, System X: Maintenance Control .. .. .	277
Supergroup and Hypergroup Codecs .. .. .	154
SV6, A Digital Speech Voltmeter—The .. .. .	23
Switching Subsystem, System X: Digital Subscriber .. .. .	241
Synchronisation and Slip Performance in a Digital Network System, The British Telecom Operator Services .. .. .	99
System: The Use of Recovered Equipment, The Larne—Portpatrick Submarine Cable .. .. .	223
System X—A Review, Evolution of .. .. .	16
System X: Build Control .. .. .	223
Part 1—Product, Hardware and Software Build .. .. .	261
Part 2—Data Management .. .. .	266
System X: Common-Channel Signalling—Progress on Installation and Testing .. .. .	255
System X: Digital Subscriber Switching Subsystem .. .. .	241
System X Exchanges, Early In-Service Experience of .. .. .	273
System X Exchanges, In-Service Support for .. .. .	270
System X Exchanges, New Operations and Maintenance Centres for Second Generation .. .. .	286
System X Exchanges—The Ordering Programme .. .. .	290
System X: Maintenance Control Subsystem .. .. .	277
System X, Power for .. .. .	249
System X, Quality Assurance for .. .. .	294
System X: The Processor Utility .. .. .	226
Systems and Reliability, Power .. .. .	31
Part 1—Present-Day Systems .. .. .	31

Systems, Broadband Cable .. .. .	6
Systems Interconnection—An Introductory Guide, Open .. .. .	86
Systems Operating on Metallic Pairs, Design and Performance of Digital Transmission .. .. .	187
Systems, Performance of Digital Radio-Relay .. .. .	201

## T

Telecommunication Networks, COST 201—A Procedure for the Optimisation of .. .. .	47
Telecommunication Networks, Jitter in Digital .. .. .	108
Telecommunications—Meeting the Challenge .. .. .	219
Television Detector Vans .. .. .	180
Testing, System X: Common-Channel Signalling—Progress on Installation and .. .. .	255
Transition Equipment—An Overview .. .. .	146
Transmission Systems Operating on Metallic Pairs, Design and Performance of Digital .. .. .	187
Transmultiplexers .. .. .	149
TROUGHTON, D. J., LUMB, A. P., BELTON, R. C., GALLAGHER, I. D., BEXON, M. D., MOOR, S. R., and STEGMAN, S. C. J. System X: The Processor Utility .. .. .	226
2048 kbit/s Data-in-Voice Modem, A .. .. .	161

## V

VALLANCE, I. D. T. Profile .. .. .	137
Vans, Television Detector .. .. .	180
Voltmeter—The SV6, A Digital Speech .. .. .	23

## W

WALPOLE, A. E., and DAVIES, H. S. J. Loading the Digital Network .. .. .	306
WARD, R. C. System X: Digital Subscriber Switching Subsystem .. .. .	241
WARD, S. A. L., and MARTIN, K. Television Detector Vans .. .. .	180
WEDLAKE, J. O., and LISLE, P. H. Data Services and the ISDN .. .. .	79
WILLIAMS, A., and BUTTERWORTH, D. C. System X: Common-Channel Signalling—Progress on Installation and Testing .. .. .	255
WILTSHIRE, B., and COLLINS, J. W. The Development of a Computer-Aided Contact Resistance Measurement System .. .. .	132

## VOLUME 3

Part 1 (Apr. 1984) .. .. .	pp. 1–65
Part 2 (July 1984) .. .. .	pp. 67–143
Part 3 (Oct. 1984) .. .. .	pp. 145–218
Part 4 (Jan. 1985) .. .. .	pp. 219–322